

form a support crystal lattice wherein the presence of said chiral agent causes the formation of the crystal faces in said support crystal lattice of said support which are modified with respect to orientation; and

(d) immobilizing a catalyst or pre-catalyst on said modified crystal faces to form a supported olefin polymerization catalyst.

19. (New) The method of claim 18 further comprising removing at least a portion of said chiral agent from said support prior to the immobilization of said catalyst or precatalyst on said support.

20. (New) The method of claim 19 wherein substantially all of said chiral agent is removed from said support.

21. (New) The method of claim 18 wherein said chiral agent is added to said support prior to subparagraph (d) and is retained on such support when said catalyst or precatalyst is immobilized on said support.

22. (New) The method of claim 18 wherein said chiral agent is an organic compound having a chiral carbon atom.

23. (New) The method of claim 22 wherein said organic chiral agent is an amino acid.

24. (New) The method of claim 18 wherein said support material is present in said solution in a concentration within the range of 1-10 moles per liter at the time of incorporation of said chiral agent into said solution.

25. (New) The method of claim 24 wherein the chiral agent is incorporated in an amount sufficient to saturate the solution.

26. (New) The method of claim 24 wherein the chiral agent is incorporated into said solution at a temperature in the range of from 25 to 100°C.

27. (New) The method of claim 18 wherein the support crystal lattice has an increased number of chiral or prochiral crystal faces.

28. (New) The method of claim 18 wherein the support is an inorganic compound.

29. (New) The method of claim 28 wherein the catalyst has an increased number of chiral exposed active sites.

31. (New) The method of claim 18 wherein the catalyst is a single site catalyst.

32. (New) The method of claim 31 wherein said catalyst is a metallocene.

33. (New) The method of claim 32 wherein said catalyst is a stereospecific catalyst.

34. (New) The method of claim 33 wherein the support crystal lattice acts as a ligand to the active sites of the catalyst.

35. (New) A method for the polymerization of an olefin monomer comprising:

(a) providing a catalyst system comprising a supported olefin polymerization catalyst produced by the immobilization of a catalyst or precatalyst on the modified crystal faces of a support material formed by crystallizing said support material from a solution of a normally solid crystalline support component and a chiral agent component part having a chiral center from said solution to form a crystal lattice in which the chiral agent causes the formation of crystal faces on said support which are modified with respect to orientation;

(b) contacting said supported catalyst system with at least one olefin in a reaction zone under polymerization conditions to form a polyolefin incorporating said olefin monomer;

(c) recovering said polyolefin from said polymerization zone.

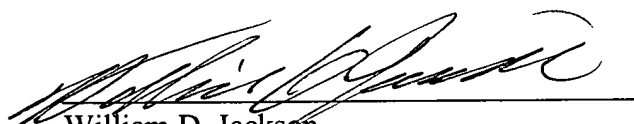
36. (New) The method of claim 35 wherein said olefin monomer is propylene.

37. (New) The method of claim 36 wherein said catalyst system comprises a stereospecific metallocene catalyst and said polyolefin is a stereoregular polypropylene.

REMARKS

It is respectfully requested that the foregoing amendments be entered prior to examination of this application.

Respectfully submitted,


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